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A first magnitude star was observed on the 15th at $1^h\ 34^m$ A.M. perfectly stationary at R.A. 157° 18′, N.P.D. 52° 30′.

The time of the maximum for this year will be best presented in a tabular form:

		Midnight to 1 a.m.	1 to 2.	2 to 3.	3 to 4.	4 to 5.	5 to 6.
Nov. 13	Total meteors	9	9	7	3	6	3
	Leonids	2	4	3	2	4	1
" 14	Total meteors	12	19	22	17	23	19
	Leonids	7	9	6	7	15	9
" 15	Total meteors	10	13	18	23	17	
	Leonids	3	7	5	9	8	

This Table shows that the Leonids were fairly distributed throughout the morning of the 15th, and were generally as numerous as on the 14th. The only approach to a maximum was between 4 and 5 A.M. on the 14th. The principal radiant was slightly below the line joining ε and ζ *Leonis*, and rather nearer the former star, or at R.A. 147° 20′, N.P.D. 67° 10′. The positions of the secondary radiants were R.A. 166°, N.P.D. 67° 40′ between δ and 72 *Leonis*, and R.A. 155° 12′, N.P.D. 54° 54′ between 31 and 37 *Leonis Minoris*. Few of the meteors had trains, and none were visible for more than 4^s.

A large number of meteors radiated towards a point near *Cor Caroli*.

On the 27th the sky was fairly clear from sunset to midnight, but the Moon very bright. No meteors were seen in the direction of *Andromeda*.

Stonyhurst Observatory,
1879, *Dec.* 6.

Occultation of 64 Aquarii by Jupiter, observed at the Melbourne Observatory, September 14, 1879. By R. L. J. Ellery, Esq., Director of the Observatory.

Observed by Mr. Ellery.

Telescope, 8 inches aperture; power 300.

Sky clear and objects steady some time before first contact.

The smallness and faint light of the star as compared with the satellites first attracted attention. The grand colouring of *Jupiter's* belts—one quite purple (with streaks of brick-red in the temperate zones), and the other greenish grey and broad—was remarkable. The star first appeared to touch the planet's limb at $10^h\ 5^m\ 19^s$ M.M.T., and was visible in that position for nearly two minutes, when, while still making a projection on the planet's outline, it all at once appeared as if seen through a mist or haze, *and entirely projected on the planet's limb*. This faded away in about ten seconds, leaving still a decided nipple-like projection on the

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edge of the planet, as if the planet itself bulged out, without any signs of the true light of the star; and at $10^{h}\ 7^{m}\ 43^{s}\cdot8$ this disappeared, leaving a clean outline to the disk.

The light of the star, although it appeared faint compared to that of the satellites, appeared as a bright speck on the planet's limb when actually in contact with it.

Observed by Mr. E. J. White, with the North Equatoreal, $4\frac{1}{2}$ inches aperture, 5 feet focal length: power 200. Used the full aperture, and a positive eye-piece magnifying 200 times. The time was taken with the sidereal chronometer, Barraud $\frac{2}{861}$, which was compared with the Transit Clock a few minutes after the observation of disappearance, and found to be $1^{m}\ 4^{s}\cdot0$ slow of Melbourne sidereal time.

The first impression on looking through the telescope was surprise at the small quantity of light of the star as compared with that of the satellites.

Watched the star, which became nearly overpowered by *Jupiter* as it got near the limb, so that the observation was very difficult. Although the definition was very good in a cloudless sky, yet slight oscillations of the planet occurred which made the star momentarily disappear. At $21^{h}\ 37^{m}\ 46^{s}$ by chronometer I thought the star had really disappeared; but on looking again I saw it projecting as a bright nipple on *Jupiter*, which seemed to gradually lessen in size till $21^{h}\ 39^{m}\ 13^{s}$, when I finally lost sight of it. Soon after this the sky became rather hazy, which quite prevented any observation of the reappearance. The above chronometer times correspond to $10^{h}\ 6^{m}\ 23^{s}\cdot7$, and $10^{h}\ 7^{m}\ 40^{s}\cdot4$ Melbourne mean time.

Observed by Mr. J. Turner, with the Great Melbourne Telescope: power 350.

As the star approached close to the limb of *Jupiter*, the definition (hitherto very unsatisfactory) so improved as to be all that could be desired; the limb of the planet being sharp and steady, thus enabling the contact to be well observed.

At the moment of contact the star did not instantly disappear, but seemed to possess a visible disk, the limb of *Jupiter* seeming to advance gradually upon it, the star by-and-by appearing to be bisected and then gradually disappearing altogether.

The time of final disappearance was $10^{h}\ 7^{m}\ 47^{s}\cdot6$ M.M.T., at which instant the circle of *Jupiter's* limb appeared perfect; previous to this the star appeared as a small protuberance upon the limb, which *gradually* got smaller until final disappearance.

The time of first contact was not noted, but I estimated the interval between contact and disappearance at about 35 seconds—certainly not less; it might be more.

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For about 10 seconds after disappearance the star could be seen *through Jupiter's* atmosphere as a speck of light seen through ground glass. This also disappeared *gradually.*

There was no fitful disappearance and reappearance, but gradual disappearance throughout.

Reappearance.

About an hour after disappearance clouds set in with occasional narrow breaks.

At $12^h\ 26^m\ 1^s$ got a clear view of planet, but no trace of star visible,

At $12^h\ 34^m\ 47^s$ got another clear view for about 5 seconds, and could clearly see a minute protuberance where the star was expected to appear. This protuberance exactly resembled the one half of the disk-like appearance of the star at disappearance.

At $12^h\ 37^m\ 57^s$ got another view for about 10 seconds, when the star was seen well separated from *Jupiter.* The small protuberance noted 3 minutes previously was thus proved to be the reappearance of the star.

Heavy clouds now set in, compelling closing up.

The times above noted are Melbourne mean time.